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**Lestideau**

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(54) **FACE DETECTION IN COLOR IMAGES  
WITH COMPLEX BACKGROUND**

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See application file for complete search history.

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(57) **ABSTRACT**

A method (100) of locating human faces, if present, in a cluttered scene captured on a digital image (105) is disclosed. The method (100) relies on a two step process, the first being the detection of segments with a high probability of being human skin in the color image (105), and to then determine a boundary box, or other boundary indication, to border each of those segments. The second step (140) is the analysis of features within each of those boundary boxes to determine which of the segments are likely to be a human face. As human skin is not highly textured, in order to detect segments with a high probability of being human skin, a binary texture map (121) is formed from the image (105), and segments having high texture are discarded.

**15 Claims, 20 Drawing Sheets**

